Plaase return to Dr. Schmitt 1-30-64

SMITHSONIAN-BREDIN CARIBBEAN EXPEDITION IV -- 1960

SCHOONER BLUE GOOSE, MARCH, APRIL, MAY, 1960 -- MEXICO

CHIEF SCIENTISTS

Dr. W. L. Schmitt, U.S.N.M.
Dr. H. Rehder, U.S.N.M.
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U.S.N.M. ACCESSION NO. 229190

Sta. 1 - 60. March 26, 1960. Progreso, Yucatan, Mexico. 1:30 to 1:45 a.m. 16 fms ±. Tow net haul over ship's side, several dips and strainings at anchorage.

Sta. 2 - 60. March 26, 1960. Progreso, Yucatan, Mexico. 5:30 a.m. 16 fms ±. Tow net haul over ship's side, several dips and strainings at anchorage.

Sta. 3 - 60. March 26, 1960. Progreso, Yucatan, Mexico. 9 p.m. Hard bottom. Struck bottom as though were piece of plank, only got piece of "grass," part of "blade."

Sta. 4 - 60. March 27, 1960. Progreso, Yucatan, Mexico, 13 miles off coast in line with heel of light of Lugartos River, (1 mile inside 10 fm. line ±. Tow net haul, 10 mins. Surf, and 3-4 feet below 1/2 time. Couple of Beroe.

✓ Sta. 5 - 60. March 28, 1960. Rehder, coll. Yucatan, Mexico, 11 miles off Cabo Catoche. 8 a.m. Nine fms. depth, N.N.W. of Cape. Dip netted Sargassum weed with hold fasts, 2 fish, 1 crab, 1 mollusk egg case, 2 pieces weed.

Sta. 6 - 60. March 28, 1960. Mujeres Harbor, Quintana Roo, Mexico. For about 10 - 15 minutes at surf. Electric light with tow net down stream but close to 100 watt, 30 volt light (on 32 volt) current.

Sta. 7 - 60. March 29, 1960. Quitana Roo, Mexico, off beacon near village, Mujeres Harbor. 5:40 to 5:50 a.m. ± 5 fms. Tow net haul over side at first anchorage.

Sta. 8 - 60. March 29, 1960. Quintana Roo, Mexico, off beacon by village, Mujeres Harbor, ± 5 fms. Bottom sample.

✓ Sta. 9 - 60. March 29, 1960. Mujeres Harbor, Quintana Roo, Mexico. A.M. Collecting along sea wall and adjacent shore of Naval Station.

Sta. 10 - 60. March 29, 1960. Bousfield, coll. Quintana Roo, Mexico, on outer shore of village Mujeres Harbor. From rocks. Stomatopod and few other things.

Sta. 11 - 60. March 29, 1960. Bousfield, Rehder, Schmitt, coll. Mujeres, Quintana Roo, Mexico, outer ocean shore, south of village half-mile. 2 to 4:30 p.m. Shore collecting out to 2 - 2 1/2 ft. Rocky shore, coarse coral sand and "gravel" with rocky promontories. Algae, shells, crustaceans, couple crabs, Pisosoma, few sea urchins cracked from rocks.

Sta. 12 - 60. March 29, 1960. Daiber, coll. Mujeres Island, Mexico, west side (channel side) of Parger Island directly south of village, across bay. Rocky shore. Shells.

Sta. 13 - 60. March 29, 1960. Daiber and Haynes, coll. Mujeres Island, Quintana Roo, Mexico, inner (bay) side of larger island south of village across bay, half way down island. 3 ft., 10 ft., Hermit crabs from 3 ft. and shallower, sandy bottom; Pitho from 10 ft.

Sta. 14 - 60. March 29, 1960. Mujeres Harbor, Quintana Roo, Mexico, 300 yds. from town pier. 9:40 to 9:50 p.m. 2 fms deep ±. Electric light over ship's side at close-in anchorage in front of Naval station.

Sta. 15 - 60. March 29, 1960. Bousfield, coll. Island Mujeres, Quintana Roo, Mexico, larger island south of village and across bay. Cardisoma collected near oil tanks in woods.

Sta. 16 - 60. March 29, 196. Bousfield, coll. Island Mujeres, Quintana Roo, Mexico, on Island due south of anchor of sheltered anchor. Overnight pan of formalin on beach.

Sta. 17 - 60. March 30, 1960. Schmitt and Rehder, coll. Mujeres Harbor, Quintana Roo, Mexico, bay side of inlet between larger island with oil tanks, south of village and smaller islet to north. 1-3 feet water. Eel-grass flats, calcareous mud (calcareous algae).

Sta. 18 - 60. March 30, 1960. Rehder, coll. Mujeres, Quintana Roo, Mexico, on rocks south end of islet that lies north of larger island with oil tanks. Echirsinus, Siphonana, Littorina, chitons.

Sta. 19 - 60. March 30, 1960. Mujeres Harbor, Quintana Roo, Mexico, bay side of inlet between larger island with oil tanks, south of village and smaller islet to north. 3-8" depth. Sandy calcareous bottom. Eel-grass flats, calcareous mud (calcareous algae). Batillana, etc.

Sta. 20 - 60. March 30, 1960. Bousfield, coll. Mujeres Harbor, Quintana Roo, Mexico, outer side (channel side) of inlet between larger island with oil tanks, south of village and smaller islet to north. 3-6 ft. See fans, alcyonarians, etc.

Sta. 21 - 60. March 30, 1960. Bousfield, coll. Island Mujeres, Quintana Roo, Mexico, surface and interior of coral-rock lee side of south end of island.

Sta. 22 - 60. March 30, 1960. Daiber, Haynes, coll. Island Mujeres, Quintana Roo, Mexico. Halfway between anchorage and small islet with low beacon. 10 ft. water.

Sta. 23 - 60. March 31, 1960. Rehder, coll. Island Mujeres, Quintana Roo, Mexico. Dead shells and drift from beach east of village.

Sta. 24 - 60. March 31, 1960. Rehder, coll. Island Mujeres, Quintana Roo, Mexico. In front of hotel Posada del Mar, North of village, in bay. 4 fms. Strombus.

Sta. 25 - 60. March 31, 1960. Bousfield, coll. Island Mujeres, Quintana Roo, Mexico, outer beach east of village. Pan trap in sand above high tide line. Talitrid and oniscids, beetles.

Sta. 25a - 60. March 30, 1960. Bousfield, coll. Island Mujeres, Quintana Roo, Mexico, in village, in coconut grove. Ocypode collected at night while setting out pan traps.

✓ Sta. 26 - 60. March 31, 1960. Schmitt, Rehder, Bousfield, coll. Island Mujeres, Quintana Roo, Mexico, in bay east of larger island, S. of village. Eelgrass bottom. Dredging.

Sta. 27 - 60. March 31, 1960. Schmitt, Rehder, coll. Island Mujeres, Quintana Roo, Mexico, from near beacon opposite Naval station to sandy spit N.W. of village. Sandy bottom. Dredging.

✓ Sta. 28 - 60. March 31, 1960. Daiber, Bousfield, coll. Island Mujeres, Quintana Roo, Mexico, bayside of inlet between two islands S. of village. In eelgrass and in and near mangrove roots.

Sta. 29 - 60. March 31, 1960. Bousfield, Schmitt, Harvey, coll. Island Mujeres, Quintana Roo, Mexico, outside or outer side of inlet, between islands, S. of village. 2 1/2 to 3 ft. of water. Porites and other coral.

✓ Sta. 29a - 60. March 31, 1960. Schmitt and Bousfield, coll. Island Mujeres, Quintana Roo, Mexico, channel side of inlet between islands, south of village. Afternoon.

Sta. 30 - 60. April 1, 1960. San Miguel, Cozumel, Mexico. Off ship's side along side end of pier. 11:50 to 12 p.m. Over 15 feet of water. Electric light and dip net.

Sta. 31 - 60. April 2, 1960. Rehder and M. Angel, coll. San Miguel, Cozumel, Mexico, along shore 300 yds. N. and S. of main pier. On coral rock and as beach drift.

Sta. 32 - 60. April 2, 1960. Bousfield and Daiber, coll. San Miguel, Cozumel, Mexico, 1/2 mile inland from water front on street on which P.O. stands. Under coral rock, stones and wood. Hermit crabs, snails, millipedes, scorpion, sow bug, cater caterpillar.

Sta. 32a - 60. April 2, 1960. San Miguel, Cozumel Island. Three specimens of Cassis and 1 Cypraecassis purchased.

Sta. 33 - 60. April 3, 1960. Rehder, Schmitt, Bousfield, coll. One mile N. of San Miguel, Island Cozumel, Mexico, on rocks from above high tide to just below water line in front of "Cabanas del Caribe" property.

Sta. 33a - 60. April 3, 1960. Bousfield, coll. San Miguel Island, Cozumel, Mexico. From swimming pool at "Cabanas del Caribe," One dead, one alive. Two Gecarcinus runcota.

Sta. 34 - 60. April 3, 1960. Burnett and Harvey, coll. San Miguel, Island Cozumel, Mexico, near anchorage NW of main dock. 25-30 ft. of water. Strombus, pen shells, coral, hermit crab, etc. Sponge. Many shrimps, crabs, worms, mollusks, etc. from cracked coral.

Sta. 35 - 60. April 5, 1960. Bousfield, coll. Espiritu Santo Bay, Quintana Roo, Mexico, 2 1/2 miles from shore. 15 ft. of water. White sand bottom. Collected near ship at anchorage in upper end of outer bay. Starfishes, etc.

Sta. 36 - 60. April 5, 1960. Rehder, Daiber, coll. North coast of outer part of Espiritu Santo Bay, Quintana Roo, Mexico, between Lawrence Pt. and Fuper Pt. Along shore, on silty sand and calcareous oozy mud, with eelgrass. Limulus, mollusks, crabs, etc.

Sta. 37 - 60. April 5, 1960. Bousfield, coll. North shore, outer bay, Espiritu Santo Bay, Quintana Roo, Mexico, 25-50 yds. from shore. 3-6 ft. Eelgrass on soft white sand. Hermit crab, sponges, algae, large shells.

Sta, 38 - 60. April 5, 1960. Espiritu Santo Bay, Quintana Roo, Mexico, N. anchorage, about 0.3 mile NW of "anchor" printed on chart H.O. #1380. 11:10 to 11:15 p.m. 2 1/4 fms. Electric light ship's side at anchorage.

Sta. 39 - 60. April 5, 1960. Bousfield, coll. N. shore, outer bay, Espiritu Santo Bay, Quintana Roo, Mexico. High water level. Pan trap on sand beach among washed eelgrass. Beach fleas, etc.

Sta. 40 - 60. April 5, 1960. Rehder, coll. N. shore, outer bay, Espiritu Santo Bay, Quintana Roo, Mexico, 11:30 p.m. In shallow water along water edge. Collected by Coleman lantern. Fasciolaria tulipa and Melongena.

Sta. 41 - 60. April 6, 1960. Bousfield and Harvey, coll. Espiritu Santo Bay, Quintana Roo, Mexico, westward side of reef to east of anchorage. In fairly shallow water, 2-10 ft. Old, much eroded coral, spiny lobsters, many shrimp from "burrows" in coral. Very rich.

Sta. 42 - 60. April 6, 1960. Rehder, Daiber, Haynes, coll. Espiritu Santo Bay, Quintana Roo, Mexico, north shore, near Lawrence Pt. Shallow water at edge of mangroves from few inches to to 4 ft. (Pinna); fishes and lobsters from near bogs. Mollusks, crabs, sponges, corals, etc.

Sta. 43 - 60. April 6, 1960. Rehder, coll. Espiritu Santo Bay, Quintana Roo, Mexico, north shore, near Lawrence Pt. Littorina, Neritina, Cerithium, dead bivalves.

Sta. 44 - 60. April 7, 1960. Bousfield, Daiber, coll. North end of Ascension Bay, Quintana Roo, Mexico, small inlet behind Allen Pt. On mangrove roots: Isognomon alata, Melampus, sponges, amphipods, fiddler crabs, anemones, etc.

Sta. 45 - 60. April 7, 1960. Bousfield, Clarke, coll. N. end of Ascension Bay, Quintana Roo, Mexico, along shore of Allen Pt. on both sides of light.

Sta. 46 - 60 April 8, 1960. Clarke, coll. Island Cozumel, Quintana Roo, Mexico, 2 miles NE of town, beyond airfield 1/4 mile E. of road. In leaf mold in sink 5ft. below road level - land snails.

Sta. 47 - 60. April 8, 1960. N. end of Cozumel Island, Quintana Roo, Mexico. 2 to 3 ft. Collected off sand beach and eelgrass flat, with clumps of calcareous algae and green algae, inhabited by alpheids, worms and hermits. With Needham scoop, got two small (2 inch) Fasciolaria tulipa, among eelgrass roots; many isopods, few taken, few amphipods seen, fewer taken.

Sta. 47a - 60. April 8, 1960. Beach on N. coast of Cozumel, about 2 1/2 miles SW of North Pt. Dead shells in beach drift.

Sta. 47x - 60. April 9, 1960. Daiber coll. Algae and 2 swimming crabs.

Sta. 48 - 60. April 8, 1960. N. end of Cozumel Island, Quintana Roo, Mexico, about 300 ft. N. of beach. 10-15 ft. of water. Several loggerhead, black sponges, and in clump coral.

Sta. 49 - 60. April 8, 1960. Bousfield and Daiber, coll. N. end of Cozumel Island, Quintana Roo, Mexico. Less 6 in. of water. Low-brackish lagoon behind narrow coral and shell barrier beach. Partly drying mud and shelly mud flats. Black mangrove trees along margin. Mixture of mollusks, amphipods, corixids, dragon fly nymphs, Ligia, etc.

Sta. 50 - 60. April 8, 1960. N. end of Cozumel Island, Quitana Roo, Mexico. 10:40 to 10:55 p.m. Over 4 fms ±. Electric light at anchorage, surf.

Sta. 51 - 60. April 9, 1960. Rehder and Bousfield, coll. Near lighthouse at North Pt. (Punta Molas), Cozumel Island, Quintana Roo, Mexico. 6 ft. deep. On coral rock from above high tide mark to depth, including splash pools. Mollusks, crabs, Physalie, barnacle. Marine shrimp and crabs came from eroded coral bases cracked up on ship.

Sta. 51a - 60. April 9, 1960. Clarke, coll. N. coast, Cozumel Island, Quintana Roo, Mexico, 3 miles SW of North Pt., under beach drift. High water line. Amphipods.

Sta. 52 - 60. April 10, 1960. Bousfield, Rehder, coll. Bahia Ascension, Quintana Roo, Mexico, just behind center of Nicchehebin Reef, E. of Allen Pt. 1-5 ft. depth. On coral, and under coral pieces on bottom. Mollusks, brittle stars, coral pieces, sea fans, crabs, etc. Heterophlias - 1 specimen seen in sorting.

Sta. 53 - 60. April 10, 1960. Daiber, Schmitt, coll. Bahia Ascension, Quintana Roo, Mexico, from cave across south side of Peninsula on which "light" is situated. Mollusks and shrimp (1), algae "moss" and lichens from dead mangrove and roots (alive and dead) algae, sponges, worms, (ascidians?).

Sta. 54 - 60. April 10, 1960. Daiber, Schmitt, coll. Ascension Bay, Quintana Roo, Mexico. Sand beach to eastward of mangrove swamp and roots. About 4 p.m. Not over 2 ft. of water. Few crabs on shore and under drift wood and coconut shells on beach and lapped by water; one large xanthid in fold of palm midriff edges folded together to form "slip" or shelter.

Sta. 55 - 60. April 11, 13, 1960. Clarke, coll. Ascension Bay, Quintana Roo, Mexico, 1 mile N. of Allen Pt. From palm trees near Casuarina grove (shells).

Sta. 56 - 60. April 11, 1960. Clarke, coll. Quintana Roo, Mexico, perhaps 100 yds. behind Allen Pt. light. From salt pond, fiddlers, shells.

Sta. 57 - 60. April 11, 1960. Clarke, coll. Ascension Bay, Quintana Roo, Mexico, just off beach N. of Allen Pt. light. Jellyfish were in numerous number all along shore, some cast on beach.

Sta. 58 - 60. April 11, 1960. Clarke, coll. Ascension Bay, Quintana Roo, Mexico, near Allen Pt. light. Under board and debris - Melampus and crabs.

Sta. 59 - 60. April 12, 1960. Daiber, coll. Ascension Bay, Quintana Roo, Mexico, mangrove inlet behind Allen Pt. light. Melampus on mangrove roots near water, Littorina higher up, Melongena on mud in water; also crabs on roots. Also, a large clump of "material" in a mangrove root was pickled separately in toto; washed off amphipods in separate vial.

Sta. 60 - 60. April 12, 1960. Schmitt, coll. Allen Point, Ascension Bay, Quintana Roo, Mexico. Where last sand beach adjoins mangroves (new or young stand). 10:30 to 11:40 a.m. Various from roots, sponge and ascidian and algae clumps (2 blennies to Daiber for color photos) mostly Microphys, and other spiders. Largest xanthids from eelgrass (sponges color noted). Remarkable color variation in shells on branches of mangrove roots.

Sta. 61 - 60. April 12, 1960. Bousfield, coll. Quintana Roo, Mexico, near Allen Pt. light. 10:30 and 12:15 a.m. Very high tides. Affected level of salt water pool (or lagoon?), beach fleas, fiddler crabs, worms, mollusks, barnacles, small fishes, etc.

Sta. 62 - 60. April 13, 1960. Rehder, coll. Ascension Bay, Quintana Roo, Mexico, along shore between 1/2 mile N. of Allen Pt. and light. 10:30 to 12:00 a.m. 6" - 1 ft. water. Mollusks and shrimps from turtle grass; Spirula on beach drift; goose barnacles on log; Strombus from pile on beach.

Sta. 63 - 60. April 13, 1960. Rehder, coll. Quintana Roo, Mexico, near shallow lagoon behind Allen Pt. light. Dead Mactrid on ground.

Sta. 64 - 60. April 13, 1960. Daiber, Rehder, coll. Ascension Bay, Quintana Roo, Mexico, lagoon behind Allen Pt. light. 10 - 10:30 a.m., 1:00 p.m. Mollusks.

Sta. 65 - 60. April 13, 1960. Daiber, coll. Ascension Bay, Quintana Roo, Mexico, shore in front of Allen Pt. light. 11:30 - 12:00 a.m. 2 ft. or less water. Seining - fish, crabs, shrimps, mollusks.

Sta. 66 - 60. April 13, 1960. Daiber, Rehder, coll. Ascension Bay, Quintana Roo, Mexico, beginning of mangrove, about 1/3 mile W. of Allen Pt. light. 2 ft. or less water. Seining - fish, crabs, shrimps, mollusks, worms, amphipods.

Sta. 67 - 60. April 13, 1960. Schmitt, Bousfield, coll. Ascension Bay, Quintana Roo, Mexico. 3:30 - 4:30 p.m. 1 - 3 ft. of water. Cracked from coral pieces taken from behind central part of Nicchehabin Reef.

Sta. 68 - 60. April 13, 1960. Schmitt, coll. Allen Point, Ascension Bay, Quintana Roo, Mexico. 10:30 to 11:40 a.m. Photo'd material. Keep separate.

Sta. 68b- 60. April 13, 1960. Schmitt, coll. Ascension Bay, Quintana Roo, Mexico. Bottle floating in Bay with attached barnacles. Picked up on way back to ship from mangroves.

Sta. 69 - 60. April 13, 1960. Nicchehabin Reef, Ascension Bay, Quintana Roo, Mexico. Shrimp, etc. taken with sweeps of nylon dipnet through eelgrass and associated edge.

Sta. 70 - 60. April 14, 1960. Schmitt, Daiber, Bousfield, Rehder, coll. Bahia Ascension, Quintana Roo, Mexico, mangrove inlet behind Allen Pt. light. 10:00 - 1:00. 2 - 3 in. of water. Fish poisoning station. Fish, shrimps, crabs, mollusks; crabs and shrimps picked up partly overcome on firm mud under water among roots.

Sta. 71 - 60. April 14, 1960. Bousfield, Schmitt, coll. Bahia Ascension, 1+ mile E. of Allen Pt. light, Quintana Roo, Mexico. Taken at anchorage by dipnet, over side of boat. Medusae (2 species) floating by in wind rows in immense quantities, only 3 of the purple (long tentacled) to literally thousands of little alive brown mottled umbrellas.

Sta. 72 - 60. April 14, 1960. Bousfield, coll. Bahia Ascension, Quintana Roo, Mexico, central part of Nicchehabin Reef. 4:30 - 5:00 p.m. 4 - 6 ft. depth. Coral pieces and sea fans from behind reef.

Sta. 73 - 60. April 15, 1960. Haynes, coll. Bahia Ascension, 1+ mile E. of Allen Pt. light. At anchorage, Crepidula and sponges (?) on Cassis.

Sta. 74 - 60. April 15, 1960. Clarke, coll. Quintana Roo, Mexico, near Allen Pt. light, in shallow water. Melongena melongena L.

Sta. 75 - 60. April 15, 1960. Bousfield, Rehder, coll. N. end of Ascension Bay, between Allen Pt. and Vigia, Quintana Roo, Mexico, lagoon behind "Halfway Point." 2:30 - 3:30 p.m. Shallows among low mangrove. Melongena, Melampus, isopods, crabs, etc.

Sta. 76 - 60. April 15, 1960. Bousfield, Rehder, coll. North end of Ascension Bay, Quintana Roo, Mexico, shore of small bay behind "Halfway Point." 2:30 - 3:30 p.m. 1 ft. depth. Turtlegrass bottom, heavy calcareous clay bottom near shore. Beach drift above high tide mark. Shells, isopods, crabs, etc.

Sta. 77 - 60. April 15, 1960. Bousfield, Rehder, coll. North end of Ascension Bay, Quintana Roo, Mexico, shore just east of Halfway Point. 3:30 - 4:30 p.m. Turtle grass flats off the Point to sandy beaches and mangrove roots, sand varying from a very fine sandy-mud to a coarser shell sand. Mollusks, crabs, anemones, fish (in dead Strombus), isopods, etc. One large Carpilodes.

Sta. 78 - 60. April 15, 1960. Daiber, Schmitt, coll. N. end of Ascension Bay, Quintana Roo, Mexico. Rotenone in small slough on embankment in mangrove swamp studied by Daiber, mostly fishes, few crabs and shrimp, mollusks.

Sta. 78a-60. April 15, 1960. Clarke, coll. N. end of Ascension Bay, Quintana Roo, Mexico. Picked up off "lighthouse" beach the day before about 2:10 p.m. Thought to be different from others. (Just smaller?)

Sta. 78b - 60. April 15, 1960. N. end of Ascension Bay, Quintana Roo, Mexico. Regular size ± that have been drifting by for last three days in great numbers, petered out this day it seems, none were seen morning of 16th.

Sta. 79 - 60. April 15, 1960. Schmitt, coll. Ascension Bay, Quintana Roo, Mexico. 9:50 to 9L55 p.m. Electric light over ship's side at anchorage. Fish larvae, (1 tiny flying fish) many stom-topod larvae, copepods, etc. Two hermits in shell.

Sta. 80 - 60. April 16, 1960. Haynes, coll. N. end outer part Ascension Bay, Quintana Roo, Mexico, near second anchorage. 15 ft. Near edge turtle grass. Strombus gigas Trachycardium, round coral.

Sta. 81 - 60. April 16, 1960. Burnett, coll. N. end outer part Ascension Bay, near schooner. 18 ft. Dead Cassis with 2 Mithrax, 2 species Stenopids, shrimps, hermit crabs, molluskn, Gnathophyllum, 2 fish.

Sta. 82 - 60. April 16, 1960. Schmitt, Bousfield, Rehder, coll. Quintana Roo, Mexico, behind central part of Nicchehabin Reef. 4 - 5 p.m. 2 - 5 ft. water. Three fish, spear caught on reef.

Sta. 83 - 60. April 16, 1960. Daiber, Haynes, coll. Ascension Bay, Quintana Roo, Mexico, mangrove inlet behind Allen Pt. light. Seining - fish, crabs, shrimp, molluska, worms, etc. Hermit crab in Melongena from edge of mangrove.

Sta. 84 - 60. April 16, 1960. Daiber, Haynes, coll. Ascension Bay, Quintana Roo, Mexico, Allen Point, south of light. Shallow water. Melongena melongena.

Sta. 85 - 60. April 17, 1960. Schmitt, Daiber, Bousfield, Rehder, coll. Ascension Bay, Quintana Roo, Mexico, along shore near Suliman Pt. 11:30 a.m. to 3:00 p.m. On rocks above high tide to rocks and tide pools just below low tide level. Mollusks, barnacles, crabs, shrimp, etc.

Sta. 86 - 60. April 17, 1960. Bousfield, coll. Ascension Bay, Quintana Roo, Mexico, mangrove area about 600-700 yds. SW of Suliman Pt.

Sta. 87 - 60. April 17, 1960. Bousfield, Daiber, Rehder, coll. N. of Ascension Bay, Quintana Roo, Mexico, 200-300 yds. SW of Suliman Pt. 12:00 - 3:30 p.m. 2 - 5 ft. depth. On sand shallows.

Sta. 88 - 60. April 17, 1960. Clarke, coll. N. end Ascension Bay, Quintana Roo, Mexico, one mile N. of Allen Pt. light. 5 - 6 p.m. 200 yds. from shore, in woods.

Sta. 89 - 60. April 18, 1960. Rehder, coll. Quintana Roo, Mexico, shore at and near Allen Pt. light. 9 - 11 a.m. From water line to 1 ft. depth. Mollusks (Neritina) crabs, shrimps, stomatopods, fish, 1 on and in turtle grass; Cerithium in sand near shore, Marginella in sand among grass in shallower water; Melongena in 6-12" water; dead Lucina near shore.

Sta. 90 - 60. April 18, 1960. Daiber, Haynes, coll. Quintana Roo, Mexico, 2 miles N. of Allen Pt. light. 9 - 10:00 a.m. Seining in shallow water along sandy beach - fish.

Sta. 91 - 60. April 18, 1960. Daiber, Bousfield, Haynes, coll. Inner side, Nicchehabin Reef, 1/3 of distance from N. end, Ascension Bay, Quintana Roo, Mexico. 2:00 - 4:00 p.m. Turtle grass bottom. Dead conches, Porites clumps, fish, shrimps, mollusks, crabs, etc.

Sta. 92 - 60. April 18, 1960. Bousfield, Daiber, Haynes, coll. Ascension Bay, Quintana Roo, Mexico, 400 yds. NW of ship anchorage. Floating wooden bucket - triggerfish, Polychaete worm, goose barnacles.

Sta. 93 - 60. April 18, 1960. Schmitt, Rehder, Harvey, coll. N. end Ascension Bay, Quintana Roo, Mexico, shore near Halfway Pt. 3:30 - 4:30. In turtle grass, on and along sand beach, on roots of trees in water. Mollusks, crabs, shrimp, etc. Young sting ray, mangrove crab.

Sta. 94 - 60. April 18, 1960. Schmitt, coll. Ascension Bay, Quintana Roo, Mexico. Between 10:00 - 10:10 p.m. Electric light at ship's anchorage (over ship's side); at surface with nylon dipnet, one wide (as piece of turtle grass) Leptocephalus, 6 in. long, also smaller leptocephalii, copepods, fish larvae of several species.

Sta. 95 - 60. April 19, 1960. Schmitt, Daiber, Bousfield, Clarke, Rehder, Haynes and Harvey, coll. Ascension Bay, Quintana Roo, Mexico, Sulimen Pt. to 300 yds. to SW shore and reef flats to sand flats. 10 a.m. to 3 p.m. 5 ft. deep.

Sta. 96 - 60. April 19, 1960. Rehder, coll. N. end Ascension Bay, Quintana Roo, Mexico, 300 yds. SW of Suliman Pt. 10 a.m. - 1 p.m. Under fallen palmetto leaves under trees. Helicinidae (2 sp.?)

Sta. 97 - 60. April 20, 1960. Schmitt, Rehder, Bousfield, coll. Quintana Roo, Mexico, along shore at Tancah. 11 a.m. - 1 p.m. In shallow water, 0 - 1 1/2 ft. Shells from beach drift, amphipods under drift, crabs, etc.

Sta. 97a- 60. April 20, 1960. Quintana Roo, Mexico, along shore at Tancah. Crab and fish taken from weed, and from under side of loose rocks turned over in surf. Algae from rocks, and drifting in surf.

Sta. 98 - 60. April 20, 1960. Rehder, Clarke, coll. Mayan ruins at Tulum, Yucatan, Mexico. 2 - 3p.m. Under stones along base of ruins, Annulanidae (2 sp.); Succinea (2 sp.); Pupillids.

Sta. 99 - 60. April 20, 1960. Rehder, coll. Quintana Roo, Mexico, Saskap cave, near Tancah and over grown ruins. 1:30 p.m. Fossil mollusks from limestone quarry in cave.

Sta. 100 - 60. April 21, 1960. Rehder, Bousfield, Daiber, coll. N. of Santa Maria Pt., S. end of Cozumel Island, Quintana Roo, Mexico. 3 - 5 p.m. 4 ft. Shore and sand flats with turtle grass. Shells from beach, fish, cubomedusae, Cassis, in 4 ft. turtle grass, octopus in dead Cassis, Strombus, hermits, sea urchin, etc.

Sta. 101 - 60. April 21, 1960. Rehder, Bousfield, coll. S. end Cozumel, near Santa Maria Pt., Quintana Roo, Mexico. 4:00 p.m. Dried up bed of lagoon. Pseudocyrena, mollusk, amphipod trap.

Sta. 102 - 60. April 21, 1960. Schmitt, coll. Bay N. of Santa Maria Pt., Cozumel Island, Quintana Roo, Mexico. 10:45 to 10:50 p.m. Tow net haul out from shore about 200 yds. from shore, surf. Five mins. ± toward anchorage.

Sta. 103 - 60. April 21, 1960. Schmitt, coll. Bay N. of Santa Maria Pt., Cozumel Island, Quintana Roo, Mexico. Electric light over ship's side at anchorage.

Sta. 104 - 60. April 21, 1960. Clarke, coll. Near Santa Maria Pt., S. end Cozumel Island, Quintana Roo, Mexico. 5 p.m. On rock at water edge, Cerithium with hermits.

Sta. 105 - 60. April 22, 1960. Clarke, Schmitt, coll. Two miles NW of Punta Sante Maria, S. end Cozumel Island, Quintana Roo, Mexico. Mollusk trap set down in 110-113 fathoms, 1 mile off shore. On bait: several species amphipods; isopods; Nebalias. In trap: 2 sp. perhaps hydroids; bottom: Lithothamnion, sand, 1 small fish.

Sta. 106 - 60. April 22, 1960. Schmitt, Rehder, coll. Shore at Pt. Santa Maria and a little to the E. of it, Quintana Roo, Mexico. 11:30 a.m. Weter's edge to 2 ft. depth. Mollusks, crabs, shrimp, anemones, echinoderm, fish, Gnathophyllum, etc.

Sta. 107 - 60. April 22, 1960. Deiber, Harvey, coll. S. end of Cozumel Island, Quintana Roo, Mexico, between Pt. Santa Maria and Pta. Celerain. 10:30 - 11:30 a.m. 8 - 10 ft. of water. Large Mithrex, fish.

Sta. 108 - 60. April 22, 1960. Bousfield, coll. N. end of lagoon at S. end of Cozumel Island, Quintana Roo, Mexico, near outlet. Crabs and fish.

Sta. 109 - 60. April 22, 1960. Bousfield coll. S. end Cozumel Island, Quintana Roo, Mexico, 1 1/4 miles N. of Pta. Santa Maria, on shore. Large shells, skinfish, miscellaneous invertebrates. Algae from stakes in water, fish. From roots of black mangroves, at this station several of green tentacled anemones were taken.

Sta. 110 - 60. April 22, 1960. Rehder, coll. S. end Cozumel Island, Quintana Roo, Mexico, high on beach 200 yds. N. of Pta. Santa Maria. 12 Noon. Dead shells. Two sp. of oysters.

Sta. 111 - 60. April 22, 1960. Clarke, coll. Two miles NE Cozumel (San Miguel) near airfield (1 1/2 miles on road to airfield), take side road about 1/4 mile, caves lie between lagoon on far side of airfield and airfield entrance (small and low). Three bats from caves.

Sta. 112 - 60. April 23, 1960. Five boys of Fr. Nagel's church, coll. Cozumel Island, Quintana Roo, Mexico, off beach at San Miguel. Seven stingrays (Urolophus jamaicensis) and puffer fish?

Sta. 113 - 60. April 23, 1960. Clarke, Deiber, coll. Quintana Roo, Mexico, 2 miles NE of San Miguel, beyond airfield, 1/4 mile E. of road. 3 - 5 p.m. Mollusks from sink below road level.

Sta. 114 - 60. April 23, 1960. Clarke, Deiber, coll. Cozumel Island, Quintana Roo, Mexico, 1 3/4 miles from San Miguel. 3 - 5 p.m. Cave and drainage culverts under airfield. One bat from cave, 34 bats from culverts.

Sta. 115 - 60. April 29, 1960. Schmitt, coll. San Miguel, Cozumel Island, Quintana Roo, Mexico, along shore 1/4 NE of pier, in front of barracks (military reservation). 3 - 5 p.m. On and under rocks - crabs, shrimps, anemones, mollusks, etc.

Sta. 116 - 60. April 29, 1960. Rehder, coll. San Miguel, Cozumel Island, Quintana Roo, Mexico, 1/4 E of water front on road past P.O. Cleared and burned over field. 2:30 p.m. Dead shells on ground.

Sta. 117 - 60. April 29, 1960. Schmitt, coll. Cozumel Island, Quintana Roo, Mexico. 11:40 - 11:50 p.m. Electric light over ship's side at anchorage. Dipnet.

Sta. 118 - 60. April 30, 1960. Schmitt, Rehder, coll. San Miguel, Cozumel Island, Quintana Roo, Mexico, along shore 1/4 NE of pier, in front of barracks (military reservation). 10:30 a.m. On rocks along water edge, in tide pools, and under stones, and rocks to rocks and above high tide mark. Mollusks, crabs, anemones, etc.

Sta. 119 - 60. May 3, 1960. Schmitt, coll. Georgetown, Grand Caymans. 10:50 - 11:00 a.m. At anchorage, electric light over ship's side, bright moonlight. Needle fish, worm larvae, and copepods.

Sta. 120 - 60. April 20, 1960. Clarke, coll. Tulum, Quintana Roo, Mexico. Terrestrial isopods.

Fourth Smithsonian-Bredin Caribbean Expedition

March - May 1960

70-foot auxiliary schooner Blue Goose

Captain Thomas C. Burnett

Personnel

E. L. Bousfield, National Museum of Canada

J. Bruce Bredin, Wilmington, Delaware

J. F. Gates Clarke, Smithsonian Institution

F. C. Daiber, University of Delaware

Harald A. Rehder, Smithsonian Institution

Waldo L. Schmitt, Smithsonian Institution

Progreso, Estado de Yucatan, Mexico

Sta. 1-60. March 26; 1:30 - 1:45 A. M. Tow-net hauls at anchorage in about ~~16 fathoms~~ 30 meters.

Sta. 2-60. March 26; 5:30 A. M. Tow-net hauls at anchorage in about ~~16 fathoms~~ 30 meters.

Sta. 3-60. March 26; 9:00 P. M. Bottom sample (~~a~~ two pieces of grass) on hard bottom at anchorage in about ~~16 fathoms~~ 30 meters.

Off Yucatán, Estado de Mexico

Sta. 4-60. March 27. ~~Thirteen miles~~ Twenty-four Kilometers off coast in line with heel of ~~light~~ shoreline of Río Lagartos, mouth (about ~~1 mile~~ two kilometers inside 10-fathom line). Tow-net haul (10 minutes) at surface and ~~3 or 4~~ three to four feet below (½ one-half time).

Applies to 6-60 EL light with tow net down stream for 10-15 mins at surface

Off Territorio de Quintana Roo

Sta. 5-60. March 28; 8:00 A. M. Eleven miles north-northwest of Cabo Catoche. Dip-netted. Rehder.

Territorio de
Isla Mujeres, Quintana Roo, *Mexico*

Sta. 6-60. March 28. Anchorage in harbor off village. Collected with tow net set down stream but close to 100-watt, 30-volt light (on 32-volt current) for 10-15 minutes. *about 11 P.M*

Sta. 7-60. March 29; 5:40 -- 5:50 A. M. First anchorage in about ~~5 fathoms~~ *nine meters* in harbor off beacon near village. Tow-net haul.

Sta. 8-60. March 29. First anchorage in about ~~5 fathoms~~ *nine meters* in harbor off beacon near village. Bottom sample obtained with snapper.

Sta. 9-60. March 29; A. M. Harbor. Collected along sea wall and adjacent shore of naval station. Schmitt.

Sta. 10-60. March 29. Harbor. From rocks on outer shore of village. Bousfield.

Sta. 11-60. March 29; 2:00 - 4:30 P. M. Outer ocean shore south of village. Collected along ~~½ mile~~ *one kilometer* of rocky shore with coarse coral sand and "gravel" and rocky promontories, ~~0 to 2½~~ *shore to two and one-half* feet. Schmitt, Rehder, and Bousfield.

Sta. 12-60. March 29. West (channel) side of larger island directly south of village, across bay. Rocky shore. Daiber.

Sta. 13-60. March 29. Inner (bay) side of larger island south of village across bay, one-half way down island. Hermit crabs from sandy bottom in less than three feet; Pitho from 10 feet. Daiber and H. L. Haynes.

Sta. 14-60. March 29; 9:40 - 9:50 P. M. Anchorage in about four meters ~~2 fathoms~~ in front of naval station, 275 meters ~~300 yards~~ from town pier. Light over side (meager sample--much more in water).

Sta. 15-60. March 29. Larger island south of village and across bay near oil tanks. In woods. Bousfield.

Sta. 16-60. March 29. Island in harbor due south of sheltered anchorage. Pan of formalin set on beach overnight. Bousfield.

Sta. 17-60. March 30. Bay side of inlet in harbor between larger island with oil tanks south of village and smaller islet to north. Grass flats, calcareous mud (calcareous algae) in ~~1-5~~ one to three feet. Schmitt and Rehder.

10-12 am

Sta. 18-60. March 30. South end of islet lying north of larger island with oil tanks. From rocks. Rehder.

Sta. 19-60. March 30. Bay side of inlet in harbor between larger island with oil tanks south of village and smaller islet to north. Sandy-calcareous bottom in ~~3-8 inches~~ 8-20 cm.

Sta. 20-60. March 30. Outer (channel) side of inlet in harbor between larger island with oil tanks south of village and smaller islet to north. From ~~3-6~~ three to six feet. Bousfield.

Sta. 21-60. March 30. Lee side of islet lying north of south end of larger island with oil tanks. From outer surface and interior of coral rock. Bousfield.

Sta. 22-60. March 30. Halfway between anchorage and small islet with low beacon. From ~~10 feet~~ three and one-half meters. Daiber and H. L. Haynes.

Sta. 23-60. March 31. Beach east of village. From drift. Rehder.

Sta. 24-60. March 31. In front of Hotel Posada del Mar north of village. Taken from about ~~4 fathoms~~ seven meters in bay. Rehder.

Sta. 25-60. March 31. Outer beach east of village. Pan trap in sand above high-tide line. Bousfield.

Sta. 25a-60. March 30. Village. In coconut grove. Bousfield.

Sta. 26-60. March 31. East of larger island in bay, south of village. Dredging on grass bottom. Schmitt, Rehder, and Bousfield.

Sta. 27-60. March 31. Between beacon opposite naval station and sandy spit northwest of village. Dredging on sandy bottom. ~~Schmitt and Rehder~~.

Sta. 28-60. March 31. A.M. Bay side of inlet between two islands south of village (near Sta. 17-60). In grass and in and near mangrove roots. ~~Bousfield and Daiber.~~

Sta. 29-60. March 31. A.M. Outer (channel) side of inlet between islands south of village. Porites and other coral rocks corals ~~From 2½ to 5~~ two and one-half to three feet. ~~Schmitt, Bousfield, and A. C. Harvey.~~

Sta. 29½-60a March 31; P. M. ~~Bay side of inlet between two islands south of village~~ Same locality as Sta 28-60 (near Sta. 17-60). ~~Schmitt and Bousfield.~~

~~Sta. 30-60.~~

Territorio de
Isla de Cozumel, Quintana Roo, Mexico

Sta. 30-60. April 1; 11:50 A. M. - 12:00 A. M. San Miguel. Light over side at end of pier in ~~2½ fathoms~~ four and one-half meters.

Sta. 31-60. April 2. San Miguel. ~~From~~ coral rock and beach drift along shore ~~300 yards~~ 275 meters north and south of main pier. Rehder and M. Angel.

Sta. 32-60. April 2. San Miguel. ~~One-half mile~~ Three-fourths Kilometer inland from water front on street on which post office stands. Under coral rock, stones, and wood. Bousfield and Daiber.

Sta. 32½-60a. April 2. Off San Miguel. shells Purchased.

Sta. 33-60. April 3. One mile north of San Miguel. From rocks above high-tide line to just below water line in front of "Cabañas del Caribe" property. Schmitt, Rehder, and Bousfield.

Sta. 33a-60. April 3. ~~One mile~~ *One and one-half kilometer* north of San Miguel. From swimming pool at "Cabanas del Caribe." One crab dead, one alive. Bousfield.

Sta. 34-60. April 3. San Miguel. Diving near anchorage northwest of main dock in ~~25-30 feet~~ *7-11 meters.* T. C. Burnett and A. C. Harvey.

Bahía del Espíritu Santo, *Territorio de* Quintana Roo, *Mexico*

Sta. 35-60. April 5. Anchorage in northern end of outer bay in ~~2½ fathoms 2½ miles~~ *four and one-half meters four and one-half kilometers* from shore. Collected from white sand bottom. Bousfield.

Sta. 36-60. April 5. North shore of outer bay between Punta Holchecat and Punta Fupar. From silty sand and calcareous oozy mud with grass. Rehder and Daiber.

Sta. 37-60. ~~North shore~~ April 5. North shore of outer bay 25-50 ~~yards~~ *meters* from shore. From grass on soft white sand in ~~3-6~~ *three to six* feet. Bousfield.

Sta. 38-60. April 5; 11:10 - 11:15 P. M. Northern anchorage in ~~2¼ fathoms.~~ *four meters.* Light over side.

Sta. 39-60. April 5. North shore of outer bay. Pan trap on sandy beach at high-tide level among washed grass. Bousfield.

Sta. 33-60. April 3. One mile north of San Miguel. From rocks above high-tide line to just below water line in front of "Cabañas del Caribe" property. Schmitt, Rehder, and Bousfield.

Sta. 33a-60. April 3. ~~One mile~~ *One and one-half kilometer* north of San Miguel. From swimming pool at "Cabanas del Caribe." One crab dead, one alive. Bousfield.

crabs

Sta. 34-60. April 3. San Miguel. Diving near anchorage northwest of main dock in ~~25-30 feet~~ *7-11 meters.* T. C. Burnett and A. C. Harvey.

Bahía del Espíritu Santo, *Territorio de* Quintana Roo, *Mexico*

Sta. 35-60. April 5. Anchorage in northern end of outer bay in ~~2½ fathoms~~ ~~2½ miles~~ *four and one-half meters* *four and one-half kilometers* from shore. Collected from white sand bottom. Bousfield.

Sta. 36-60. April 5. North shore of outer bay between Punta Holchecat and Punta Fupar. From silty sand and calcareous oozy mud with grass. Rehder and Daiber.

Sta. 37-60. ~~March 5~~ April 5. North shore of outer bay 25-50 ~~yards~~ *meters* from shore. From grass on soft white sand in ~~3-6~~ *three to six* feet. Bousfield.

Sta. 38-60. April 5; 11:10 - 11:15 P. M. Northern anchorage in ~~2¼ fathoms~~ *four meters.* Light over side.

Sta. 39-60. April 5. North shore of outer bay. Dan trap on sandy beach at high-tide level among washed grass. Bousfield.

Sta. 40-60. April 5; 11:30 P. M. North shore of outer bay. Collected in shallow water along tide line with Coleman lantern. Rehder.

Sta. 41-60. April 6. West side of reef east of anchorage. Largely from upper portions of much eroded coral standing in ~~10 feet~~ *three meters* of water. Bousfield and A. C. Harvey.

Sta. 42-60. April 6. North shore near Punta Holchecat. From edge of mangroves in ~~1-4~~ *one-half to four* feet. Rehder, Daiber, and H. L. Haynes.

Sta. 43-60. April 6. North shore near Punta Holchecat. On and near mangroves. Rehder.

Territorio de
Bahía de la Ascensión, Quintana Roo, *Mexico*

Sta. 44-60. April 7. *Small* Inlet behind Punta Nicchehabin. From mangrove roots. Bousfield and Daiber.

Sta. 45-60. April 7. Punta Nicchehabin. Along shore on both sides of light. Clarke and Bousfield.

Territorio de
Isla de Cozumel, Quintana Roo, *Mexico*

Sta. 46-60. April 8. ~~Two miles~~ *Three kilometers* northeast of San Miguel, beyond airfield. In leaf mold in sink ~~1 mile~~ *two-fifths kilometer* east of road and ~~5~~ *five* feet below road level. Clarke.

Sta. 47-60/ April 8. North end of island. ~~Sand~~ beach and *eel-* grass flat; ~~mixed~~ clumps of calcareous and green algae, in ~~3-5~~ *two to three* feet. Collected ~~X~~

X used Needham scoop got no. of small mollusks

"47x" = April 9, 1960 { Dr. Daiber got more algae and 2 swimming crabs at his location April 9, 1960 = "47x-60"

Sta. 47a-60. April 8. North end of island about ~~2½ miles~~ *four kilometers* southwest of Punta Molas. Beach drift.

Sta. 47x-60. April 9. North end of island. Sandy beach and grass flat, with clumps of calcareous and green algae, in ~~2-5~~ *two to three* feet. Daiber.

Sta. 48-60. April 8. North end of island. About ~~500~~ *90 meters* ~~feet~~ north of sandy beach in ~~10-15 feet~~ *three to five meters.* H. L. Haynes. *several loggerhead sponges + 1 clump coral*

Sta. 49-60, April 8. North end of island. Partly drying mud and shelly mud flats with less than ~~6~~ *15 cm* ~~inches~~ of water in low-brackish lagoon, margined with black mangroves, behind narrow coral and shell barrier beach. Bousfield and Daiber.

Sta. 50-60. April 8; 10:40 - 10:55 P. M. North end of island. Light over side at anchorage in about ~~4 fathoms~~ *seven meters.*

Sta. 51-60. Near lighthouse at Punta Molas. On and in coral rock and splash pools from above high-tide line to ~~6 feet~~ *two meters.* Rehder and Bousfield.

Sta. 51a-60. April 9. ~~Three miles~~ *Five kilometers* southwest of Punta Molas. Under beach drift at high-tide line. Clarke.

Territorio de
Bahía de la Ascensión, Quintana Roo, *Mexico*

Sta. 52-60. April 10. Just behind center of Arrecife Nicchehabin. On and under coral in ~~1-5~~ *one to five* feet. Rehder and Bousfield.

Sta. 53-60. April 10. Cove across (south side of) peninsula on which "light" is situated. From dead mangroves and living and dead mangrove roots. Schmitt and Daiber.

Sta. 54-60. April 10; 4:00 P. M. Cove across (south side of) peninsula on which "light" is situated. Sandy beach east of mangrove swamp, ~~0-2~~ shore to two feet. Schmitt and Daiber.

Sta. 55-60. April 11 and 13. ~~One mile~~ One and one-half kilometers north of Punta Nicchehabin. From palm trees near casuarina grove. Clarke.

Sta. 56-60. April 11. About ~~100 yards~~ 100 meters behind Punta Nicchehabin light. From salt pond. Clarke.

Sta. 57-60. April 11; eraly evening. Beach north of Punta Nicchehabin light. Jellyfishes numerous just off beach; some cast ashore. Clarke.

Sta. 58-60. April 11. Halfway between Sta. 55-60 and ~~one-half mile north~~ Punta Nicchehabin light. Under board and debris. Clarke.

Sta. 59-60. April 12. Mangrove inlet behind Punta Nicchehabin light.

Sta. 60-60. April 12; 10:30 - 11:40 A. M. Behind Punta Nicchehabin light. Margin of mangrove swamp adjoining last sandy beach. Schmitt.

Sta. 61-60. April 12; 10:30 A. M. - 12:15 P. M. About 100 ~~yards~~ meters behind Punta Nicchehabin light. From salt pond (level raised by unusually high tide).

Sta . 62-60. April 13; 10:30 A. M. - 12:00 M. Punta Nicchehabin light to ~~$\frac{1}{2}$ mile~~ four-fifths kilometer northward. Beach and shore collecting to ~~1~~ one foot. Rehder.

Sta. 63-60. April 13. Near shallow lagoon behind Punta Nicchehabin light. Dead material on ground. Rehder.

Sta. 64-60. April 13; 10:00 - 10:30 A. M. and 1:00 P. M. Lagoon behind Punta Nicchehabin light. Rehder and Daiber.

Sta. 65-60. April 13; 11:30 A. M. - 12:00 M. Shore in front of Punta Nicchehabin light. Seining in ~~2~~ two feet or less. Daiber.

Sta. 66-60. April 13; 1:00 P. M. Edge of mangroves about ~~1/3 mile~~ one-half kilometer west of Punta Nicchehabin light. Seining in ~~2~~ two feet or less. Daiber.

Sta. 67-60. April 13; 3:30 - 4:30 P. M. Behind central part of Arrecife Nicchehabin. From coral pieces and flats in ~~1-3~~ one to three feet. Schmitt and Bousfield.

Sta. 68-60. April 13; 10:30 - 11:40 A. M. Behind Punta Nicchehabin light. Margin of mangrove swamp adjoining last sandy beach.

Schmitt coll

Sta. 68b-60. April 13. Between &&&&&&&&&&&&&&&& Punta Nicchehabin and anchorage. Floating in bay.

Bottle float in bay, burnacles on Schmitt

Sta. 69-60. April 13. Behind Punta Nicchehabin light. Collected by sweeping net through grass and associated algae at margin of mangrove swamp adjoining last sandy beach.

Shrimp

Sta. 70-60. April 14; 10:00 A. M. - 1:00 P. M. Mangrove inlet behind Punta Nicchehabin light. Extensive fish poisoning with two gallons of rotenone. Schmitt, Rehder, Bousfield, and Daiber.

Sta. 71-60. April 14; 9:00 - 9:30 A. M. Anchorage ~~1+ mile~~ more than one and one-half Kilometers east of Punta Nicchehabin light. Medusae drifting by in immense numbers. (~~3~~ three purple, long-tentacled ones out of thousands of little mottled olive-brown ones).

Schmitt Bousfield

Sta. 72-60. April 14; 4:30-- 5:00 P. M. Behind central part of Arrecife Nicchehabin. From ~~4-6~~ four to six feet. Bousfield.

Sta. 73-60. April 15; 12:00 M. Anchorage ~~1+ mile~~ more than one and one-half kilometers east of Punta Nicchehabin light. H. L. Haynes.

Sta. 74-60. April 15; P. M. Near Punta Nicchehabin light. Shallow water. Clarke.

Sta. 75-60. April 15; 2:30 - 3:30 P. M. Lagoon behind "Halfway Point," between Punta Nicchehabin and Vigía Chico. Shallows among low mangrove. Rehder and Bousfield.

Sta. 76-60. April 15; 2:30 - 3:30 P. M. Shore of small bay behind "Halfway Point," between Punta Nicchehabin and Vigía Chico. Turtle grass on heavy calacreous clay bottom in ~~1~~ one foot and beach drift above high-tide line. Rehder and Bousfield.

Sta. 77-60. April 15; 3:30 - 4:30 P. M. Shore just east of "Halfway Point," between Punta Nicchehabin and Vigía Chico. Turtle grass flats off point to sandy beaches and mangrove roots; sand varying from very fine sandy mud to coarser shell sand. Rehder and Bousfield.

Sta. 78-60. April 15. Small slough or embayment in mangrove swamp studied by Daiber. Rotenone poisoning. Schmitt and Daiber.

Sta. 78a-60. April 14; 2:10 P. M. "Lighthouse" beach. Clarke.

Sta. 78b-60. April 15. ~~Specimens of regular~~ Jelly fish Medusae of size that have been drifting by for three days. None seen by morning of April 16.

Sta. 79-60. April 15; 9:50 - 9:55 P. M. Anchorage. Light over side.

Sta. 80-60. April 16. Near second anchorage at northern end of outer part of bay. From ~~15 feet~~ four and one-half meters, near edge of turtle grass.

Sta. 81-60. April 16. Near second anchorage at northern end of outer part of bay. From ~~18 feet~~ five and one-half meters. T. C. Burnett.

Sta. 82-60. April 16; 4:00 - 5:00 P. M. Behind central part of Arrecife Nicchehabin, ~~5~~ two to five feet. Schmitt, Rehder, and Bousfield.

Sta. 83-60. April 16. Mangrove inlet behind Punta Nicchehabin light. Seining. Daiber and H. L. Haynes.

Sta. 84-60. April 16. Punta Nicchehabin south of light. Shallow water. Daiber and H. L. Haynes.

Sta. 85-60. April 17; 11:30 A. M. - 3:00 P. M. Near Punta Soliman. From rocks above high-tide to rocks and tide pools just below low-tide level. Schmitt, Rehder, Bousfield, and Daiber.

Sta. 86-60. April 17; 12:00 - 1:00 P. M. Mangrove area about 600-700 ~~yards~~ meters southwest of Punta Soliman. Bousfield.

Sta. 87-60. April 17; 12:00 - 3:30 P. M. About 200-300 ~~yards~~ meters southwest of Punta Soliman. Sand shallows in ~~2-5~~ two to five feet. Rehder, Bousfield, and Rehder.

Sta. 88-60. April 17; 5:00 - 6:00 P. M. One ~~mile~~ and one-half kilometers north of Punta Nicchehabin light. Woods 200 ~~yards~~ meters inland. Clarke.

Sta. 89-60. April 18; 9:00 - 11:00 A. M. At and near Punta Nicchehabin light. Shore collecting in ~~0-1~~ less than one foot. Rehder.

Sta. 90-60. April 18; 9:00 - 10:00 A. M. ~~Two miles~~ Three kilometers north of Punta Nicchehabin light. Shallow seining along sandy beach. Daiber and H. L. Haynes.

Sta. 91-60. April 18; 2:00 - 4:00 P. M. Inner side of Arrecife Nicchehabin ~~1/3~~ one-third of distance from north end. Bottom covered with turtle grass, conchs, and Porites clumps. Bousfield, Daiber, and H. L. Haynes.

Sta. 92-60. April 18; 4:00 P. M. About 400 ~~yards~~ meters northwest of anchorage. From floating wooden bucket. Bousfield, Daiber, and H. L. Haynes.

Sta. 93-60. April 18; 3:30 - 4:30 P. M. Near "Halfway Point," between Punta Nicchehabin and Vigía Chico. In turtle grass, on and along sandy beach, and on submerged roots of trees. Schmitt, Rehder, and A. C. Harvey.

Sta. 94-60. April 18; 10:00 - 10:10 P. M. Anchorage. Light over side.

Schmitt Coll

Sta. 95-60. April 19; 10:00 A. M. - 3:00 P. M. Punta Solimán to 300 ~~yards~~ meters southwest. Shore, reef flats, and sand flats, ~~5~~ five feet. Schmitt, Bousfield, Clarke, Daiber, Rehder, A. C. Harvey, and H. L. Haynes.

Sta. 96-60. April 19; 10:00 A. M. - 1:00 P. M. About 300 ~~yards~~ meters southwest of Punta Solimán. Under fallen palmetto leaves under trees. Rehder.

Territorio de
Tancáh, Quintana Roo, Mexico

Sta. 97-60. April 20; 11:00 A. M. - 1:00 P. M. Under beach drift and in shallow water, ~~0 - 1½~~ less than one and one-half feet. Schmitt, Rehder, and Bousfield.

Sta. 97a-60. April 20; 11:00 A. M. - 1:00 P. M. From weed on and under loose rocks.

Texas on back

Territorio de
Ruinas de Tulum, Quintana Roo, *Mexico*

Sta. 98-60. April 20; 2:00 - 3:00 P. M. Under stones along base of ruins. Rehder.

Territorio de
Tancah, Quintana Roo, *Mexico*

Sta. 99-60. April 20; 1:30 P. M. Saskap Cave and overgrown ruins. Rehder.

Territorio de
Isla de Cozumel, Quintana Roo, *Mexico*

Sta. 100-60. April 21; 3:00 - 5:00 P. M. North of Punta Santa Maria. Shore and turtle-grass flats. Rehder, Bousfield, and Daiber.

Sta. 101-60. April 21; 4:00 P. M. Dried bed of lagoon near Punta Santa Maria. Rehder and Bousfield.

Sta. 102-60. April 21; 10:45 - 10:50 P. M. Shore to 200 ~~yards~~ *meters* toward anchorage in bay north of Punta Santa Maria. Tow net.

Schmitt coll

Sta. 103-60. April 21; 11:35 - 11:40 P. M. Bay north of Punta Santa Maria. Light over side at anchorage.

Schmitt

Sta. 104-60. April 21; 5:00 P. M. Near Punta Santa Maria. From rock at tide line. Clarke.

Sta. 105-60. April 22. ~~Two miles~~ *Three kilometers* northwest by north of Punta Santa Maria. Mollusk trap set ~~1 mile~~ *nearly two kilometers* offshore in ~~110-115 fathoms~~ *200-210 meters*.

Daly & Schmitt

Sta. 106-60. April 22; 9:30 - 11:30 A. M. Punta Santa Maria and slightly eastward. Shore collecting in ~~0-2~~ *less than two* feet. Schmitt and Rehder.

Sta. 107-60. April 22; 10:30 - 11:30 A. M. Between Punta Santa Maria and Punta Celarain, ~~8-10 feet.~~ *two to three meters.* Daiber and A. C. Harvey.

Sta. 108-60. April 22; 9:30 - 10:30 A. M. North end of lagoon, near outlet, south end of island. Bousfield.

Sta. 109-60. April 22; 10:30 - 11:30 A. M. ~~One and ¼ miles~~ *Two Kilometers* north of Punta Santa Maria. Shore collecting and from stakes in water and roots of black mangroves. Bousfield.

Sta. 110-60. April 22; 12:00 M. About 200 ~~yards~~ *meters* north of Punta Santa Maria. From high on beach. Rehder.

Sta. 111-60. April 22. Caves ~~2 miles~~ *three Kilometers* northeast of San Miguel between air field and lagoon on far side. Clarke.

Sta. 112-60. April 23. Off beach at San Miguel. Collected by ~~5~~ *five* boys.

Sta. 113-60. April 23; 3:00 - 5:00 P. M. ~~Two~~ *Three Kilometers* ~~miles~~ northeast of San Miguel, beyond airfield. In leaf mold in sink ~~¼ mile~~ *two-fifths Kilometer* east of road and ~~5~~ *five* feet below road level. Clarke and Daiber.

Sta. 114-60. April 23; 3:00 - 5:00 P. M. Cave and drainage culverts under airfield ~~1¾ miles~~ *two and three-fourths Kilometers* from San Miguel. Clarke and Daiber.

Sta. 115-60. April 29; 3:00 - 5:00 P. M. ~~One-fourth mile~~ Two-fifths kilometer northeast of San Miguel pier. On and under rocks along shore in front of military reservation barracks. Schmitt.

Sta. 116-60. April 29; 2:30 P. M. ~~One-fourth mile~~ Two-fifths kilometer east of water front on road past San Miguel post office. From cleared and burned over field. Rehder.

Sta. 117-60. April 29; 11:40 - 11:50 P. M. Light over side at anchorage. Schmitt

Sta. 118-60. April 30.; 9:00 - 10:30 A. M. ~~One-fourth mile~~ Two-fifths Kilometer northeast of San Miguel pier. On rocks along tide line, in tide pools, and under stones and rocks and rocks and grass above high-tide line. Schmitt and Rehder.

Grand Cayman, Caribbean Sea

Sta. 119-60. May 3; 10:50 - 11:00 P. M. Georgetown. Light over side at anchorage in bright moonlight. Schmitt

Territorio de
Ruinas de Tulum, Quintana Roo, Mexico

Sta. 120-60. April 20. Terrestrial collecting. Clarke.